

*NOTE:
BASE TYPE "A"
ARE MOUNTED ON A
2'-0" CONCRETE
PEDESTAL BY
OTHERS.

"L"

DETAIL 2

6"

2'-3"

3'-6" RISE

*40'-0" LUMINAIRE MOUNTING HEIGHT

SEE LUMINAIRE ARM DATA

DETAIL 4

FOR ALL ATTACHMENT ORIENTATIONS SEE RADIAL INDEX ON SHEET 1 OF 4.

DETAIL 2

DETAIL 6

1'-2"

DETAIL 1

DETAIL 3 REMOVABLE CAP.

DETAIL 8

DETAIL 5 FOR ARM WITH LENGTHS OVER 50'-0" ONLY.

DETAIL 7 (TYP)

AS SPECIFIED

AS SPECIFIED

DETAIL 8

DETAIL 6

DETAIL 11

DETAIL 9 OR 10

DETAIL 12

@ HANDHOLE

1'-6"

GENERAL NOTES:

1. ALL WELDS SHALL BE MECHANICALLY CLEANED BEFORE GALVANIZING.
2. GALVANIZED MATERIAL SHALL BE HANDLED ON A MANNER TO AVOID DAMAGE TO THE SURFACES. ANY GALVANIZED MATERIAL ON WHICH THE SPECTER COATING HAS BEEN BRUISED OR BROKEN WILL BE REJECTED OR MAY WITH APPROVAL OF THE ENGINEER BE REPAIRED IN ACCORDANCE WITH SECT. 712.14 OF MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
3. SEE DOCUMENTS OF APPROVED WELDING PRODEDURES FOR MISSOURI TRAFFIC STANDARDS.

FOR COMBINATION POLES
UPPER HANDHOLE WILL BE
180° FROM FIRST MAST ARM

ALL ANGLES MEASURED
CLOCKWISE FROM FIRST
MAST ARM AS VIEWED
FROM SMALL END OF POLE

The diagram shows a circular cross-section of a pole with a central square hole. Two mast arms, labeled 'FIRST MAST ARM' and 'SECOND MAST ARM', extend from the center. The angle between them is 180°. Two handholes are also shown: 'HANDHOLE (UPPER)' and 'HANDHOLE (LOWER)'. The angle between the first mast arm and the upper handhole is 90°. The angle between the first mast arm and the lower handhole is 135°. The angle between the second mast arm and the upper handhole is 90°. The angle between the second mast arm and the lower handhole is 180°. Arrows indicate the direction of measurement: clockwise from the first mast arm.

⌀ I.D. TAG
⌀ HANDHOLE
(LOWER)

135°

90°

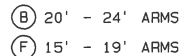
90° - 180°

⌀ FIRST MAST ARM

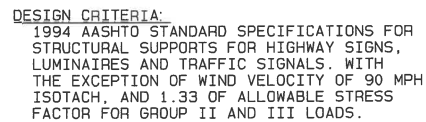
⌀ SECOND MAST ARM

⌀ ANCHOR BOLT HOLE

RADIAL INDEX



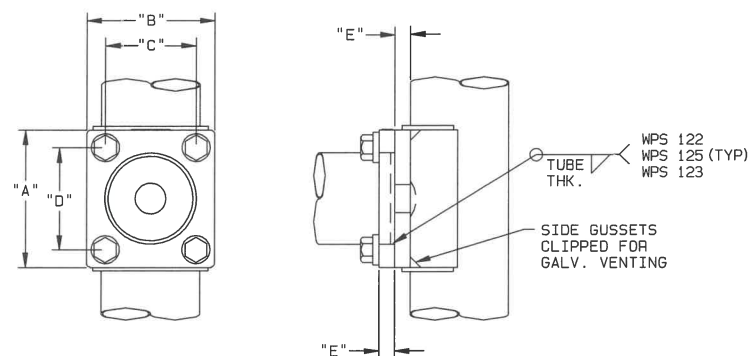
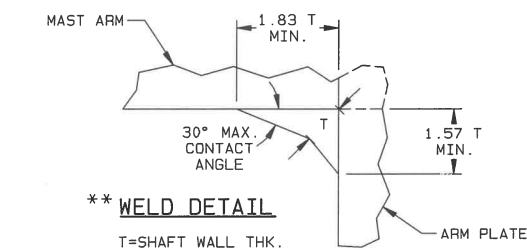
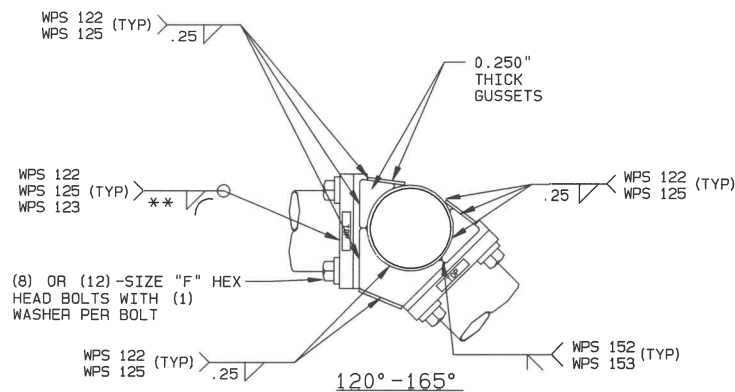
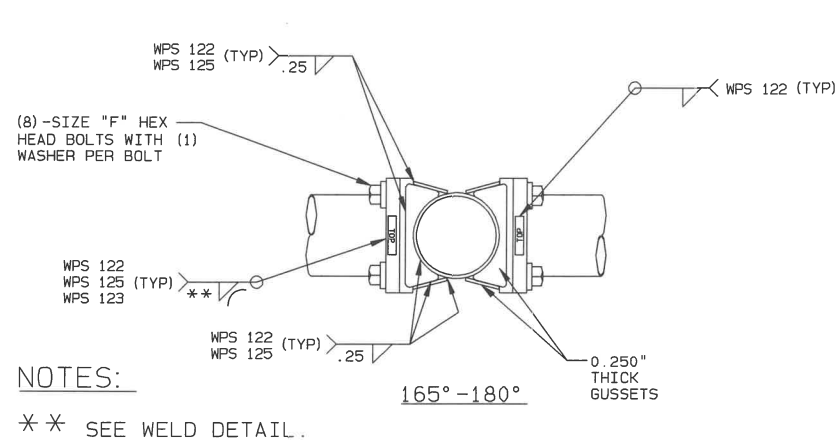
LOADING INFORMATION



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MANUFACTURING PROCESS.

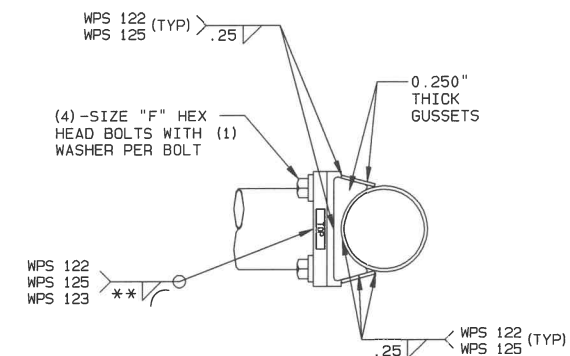
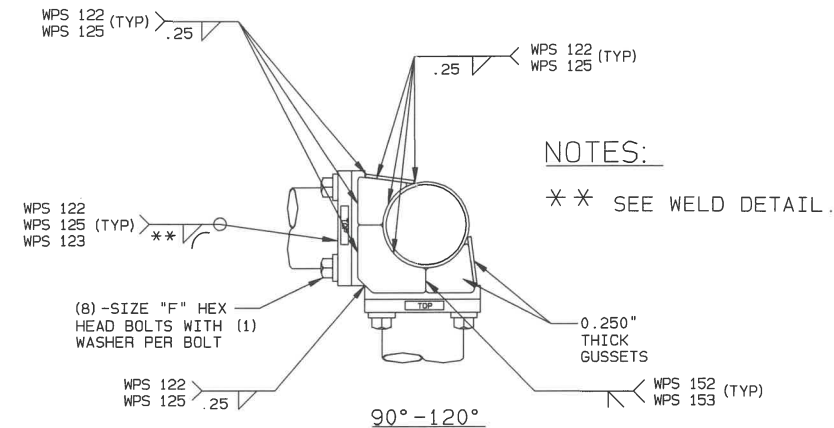
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Valley, NE 68064
(402) 359-2201



NOTE:
ARMS SHALL BE PROVIDED WITH A PERMANENT MARKING INDICATING PROPER ORIENTATION FOR INSTALLATION. (SEE DETAIL 13 ON SHEET 3 OF 4)

SIGNAL ARM ATTACHMENT DATA 15' -54' ARMS							
POLE BASE DIA.	GAUGE OR THK.	"A"	"B"	"C"	"D"	"E"	"F"
10.00"	7	11.75"	9.25"	5.75"	8.25"	1.00"	1.00" X 2.25"
11.00"	7	12.50"	10.00"	6.25"	8.75"	1.25"	1.25" X 2.75"
12.00"	7	12.75"	11.00"	7.25"	9.00"	1.25"	1.25" X 2.75"
12.50"	5	13.00"	11.50"	7.75"	9.25"	1.25"	1.25" X 2.75"
12.50"	3	14.00"	12.50"	8.75"	10.25"	1.50"	1.25" X 3.25"
13.00"	5	15.50"	14.00"	10.25"	11.75"	1.50"	1.25" X 3.25"
13.00"	3	15.75"	14.25"	9.75"	11.25"	1.50"	1.50" X 3.50"
14.00"	0.25"	16.75"	15.25"	10.75"	12.25"	1.75"	1.50" X 4.00"
14.50"	0.25"	17.00"	15.50"	11.00"	12.50"	1.75"	1.50" X 4.00"
15.00"	0.25"	17.25"	15.75"	11.25"	12.75"	1.75"	1.50" X 4.00"
16.00"	0.25"	17.50"	16.00"	11.50"	13.00"	2.00"	1.50" X 4.25"
17.00"	0.25"	17.75"	16.25"	11.75"	13.25"	2.00"	1.50" X 4.25"
18.00"	0.25"	18.50"	17.00"	12.50"	14.00"	2.00"	1.50" X 4.25"
DETAIL 1		SIGNAL ARM ATTACHMENT					



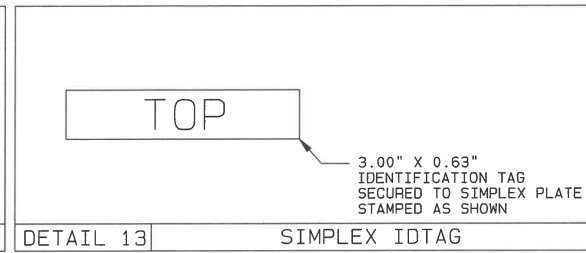
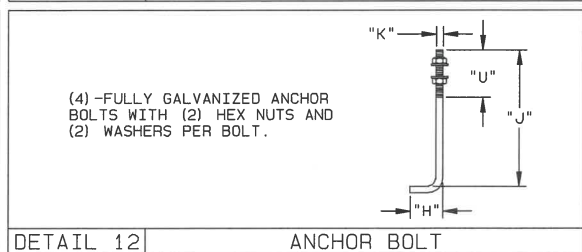
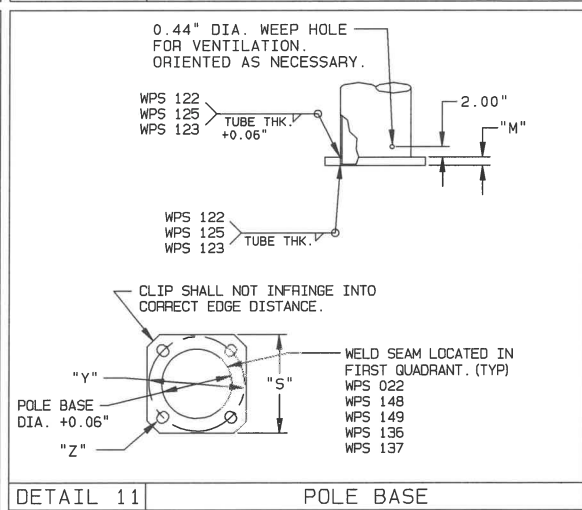
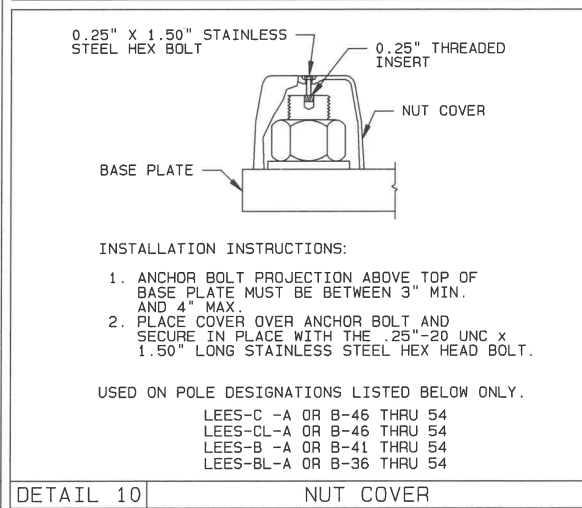
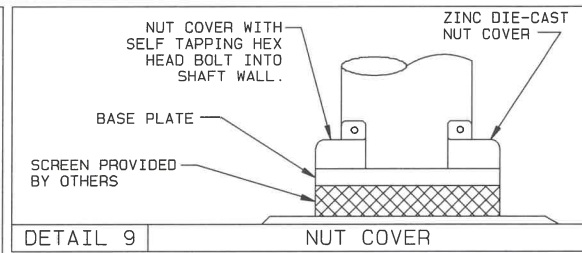
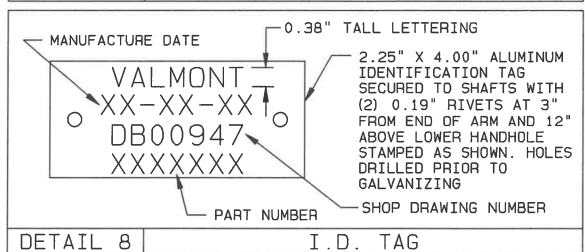
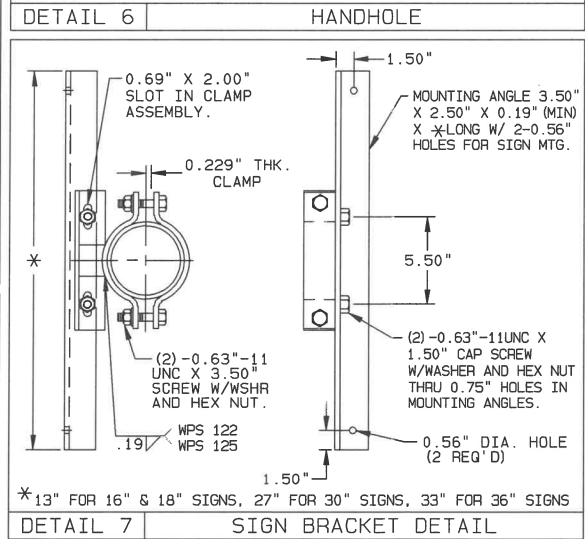
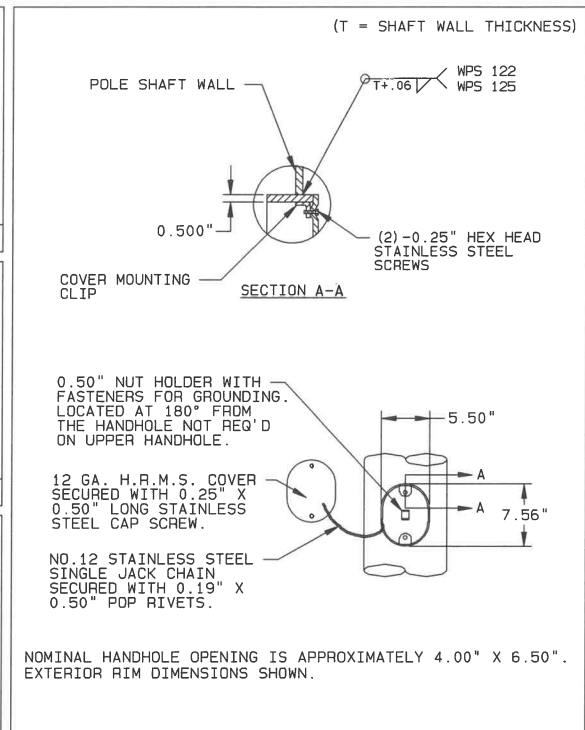
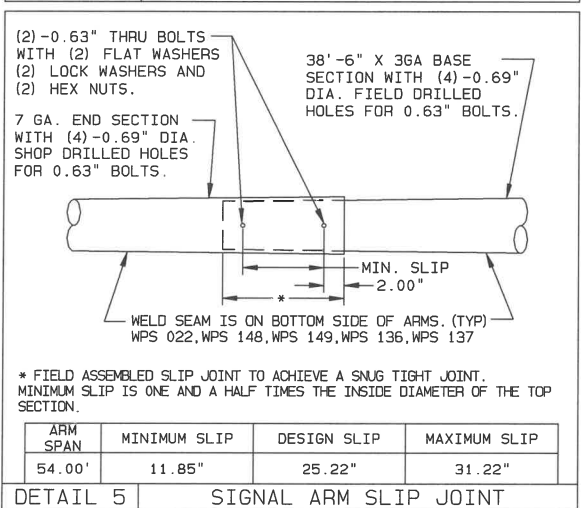
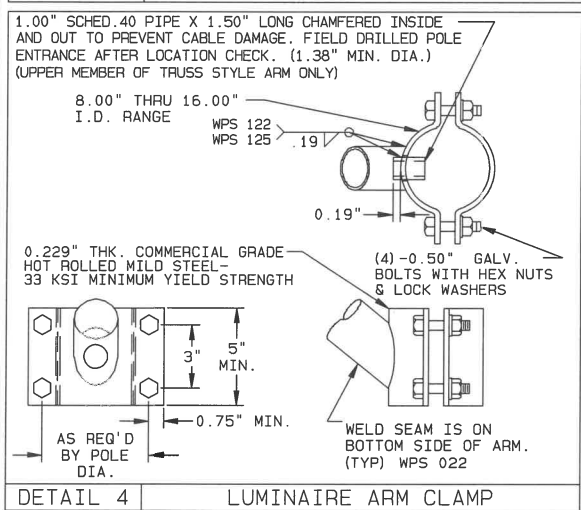
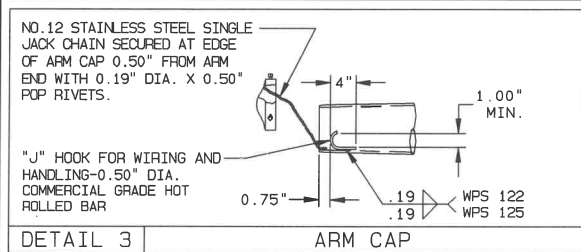
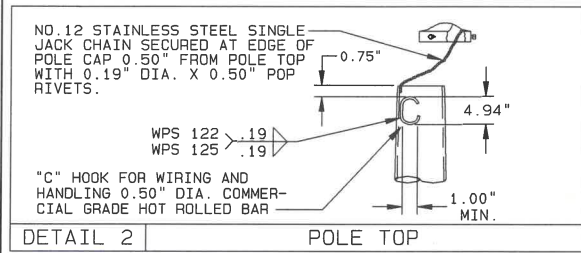
TITLE CITY OF LEE'S SUMMIT, MO.

TRAFFIC SIGNAL STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

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PAGE NUMBER: 2 OF 4
DRAWING NUMBER DB00947
REV A



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PAGE NUMBER: 3 OF 4
DRAWING NUMBER DB00947
REV A

TABLE 1: SINGLE MAST ARM TRAFFIC STRUCTURE DATA														TABLE 3: DOUBLE MAST ARM WITH LUMINAIRE ARM TRAFFIC STRUCTURE DATA																		
DESIGNATION KEY				POLE TUBE		POLE BASE				ANCHOR BOLT				DESIGNATION KEY						POLE TUBE		POLE BASE				ANCHOR BOLT						
POLE SERIES	POLE TYPE	BASE TYPE	SIGNAL ARM SPAN	BASE DIA. (IN)	LENGTH (FT)	GAUGE OR THICK (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	POLE SERIES	POLE TYPE	BASE TYPE	FIRST SIGNAL ARM SPAN (FT)	SECOND SIGNAL ARM SPAN (FT)	ORIENTATION ANGLE	LUMINAIRE ARM SPAN (FT)	BASE DIA. (IN)	LENGTH (FT)	GAUGE OR THICK (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)
LEES	C	A OR B	8 THRU 14	10.00	SEE TABLE 7	7	14.00	13.50	1.50	1.75	1.50	73.00	6.00	7.50	LEES	BL	A OR B	14 MAX.	14 MAX.	90 THRU 180	6 THRU 15	12.50	5	17.50	16.50	1.50	2.00	1.75	88.00	6.00	8.00	
LEES	C	A OR B	15 THRU 19	12.00		7	17.00	16.00	1.25	1.75	1.50	73.00	6.00	7.50	LEES	BL	A OR B	19 MAX.	19 MAX.	90 THRU 180	6 THRU 15	12.50	3	18.00	17.00	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	20 THRU 24	12.00		7	17.00	16.00	1.25	1.75	1.50	73.00	6.00	7.50	LEES	BL	A OR B	24 MAX.	24 MAX.	90 THRU 180	6 THRU 15	13.00	3	19.00	18.50	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	25 THRU 29	13.00		5	18.00	17.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	BL	A OR B	29 MAX.	29 MAX.	90 THRU 180	6 THRU 15	14.00	0.250	19.00	19.00	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	30 THRU 32	13.00		5	18.00	17.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	BL	A OR B	32 MAX.	32 MAX.	90 THRU 180	6 THRU 15	14.50	0.250	19.50	19.50	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	33 THRU 34	13.00		5	18.00	17.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	BL	A OR B	34 MAX.	34 MAX.	90 THRU 180	6 THRU 15	15.00	0.250	20.50	20.50	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	35 THRU 36	13.00		3	18.50	17.50	1.50	2.00	1.75	88.00	6.00	8.00	LEES	BL	A OR B	36 MAX.	36 MAX.	90 THRU 180	6 THRU 15	16.00	0.250	22.00	22.00	2.00	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	37 THRU 39	14.00		0.250	19.00	19.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	BL	A OR B	39 MAX.	39 MAX.	90 THRU 180	6 THRU 15	16.00	0.250	22.00	22.00	2.00	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	40 THRU 41	14.00		0.250	19.00	19.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	BL	A OR B	41 MAX.	41 MAX.	90 THRU 180	6 THRU 15	16.00	0.250	22.00	22.00	2.00	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	42 THRU 45	14.50		0.250	20.00	20.00	1.75	2.00	1.75	88.00	6.00	8.00	LEES	BL	A OR B	45 MAX.	45 MAX.	90 THRU 180	6 THRU 15	17.00	0.250	23.00	23.00	2.00	2.25	2.00	115.00	6.00	8.50	
LEES	C	A OR B	46 THRU 50	16.00	0.250	22.00	22.00	1.75	2.25	2.00	115.00	6.00	8.50	LEES	BL	A OR B	50 MAX.	50 MAX.	90 THRU 180	6 THRU 15	18.00	0.250	24.00	24.00	2.00	2.50	2.25	114.00	6.00	9.00		
LEES	C	A OR B	51 THRU 54	16.00	0.250	22.00	22.00	1.75	2.25	2.00	115.00	6.00	8.50	LEES	BL	A OR B	54 MAX.	54 MAX.	90 THRU 180	6 THRU 15	18.00	0.250	24.00	24.00	2.00	2.50	2.25	114.00	6.00	9.00		

TABLE 2: SINGLE MAST ARM WITH LUMINAIRE ARM TRAFFIC STRUCTURE DATA														TABLE 4: DOUBLE MAST ARM TRAFFIC STRUCTURE DATA																		
DESIGNATION KEY					POLE TUBE		POLE BASE				ANCHOR BOLT				DESIGNATION KEY						POLE TUBE		POLE BASE				ANCHOR BOLT					
POLE SERIES	POLE TYPE	BASE TYPE	SIGNAL ARM SPAN	LUMINAIRE ARM SPAN	BASE DIA. (IN)	LENGTH (FT)	GAUGE OR THICK (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	POLE SERIES	POLE TYPE	BASE TYPE	FIRST SIGNAL ARM SPAN (FT)	SECOND SIGNAL ARM SPAN (FT)	ORIENTATION ANGLE	BASE DIA. (IN)	LENGTH (FT)	GAUGE OR THICK (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)
LEES	CL	A OR B	8 THRU 14	6 THRU 15	11.00	SEE TABLE 7	7	16.00	15.00	1.25	1.75	1.50	73.00	6.00	7.50	LEES	B	A OR B	14 MAX.	14 MAX.	90 THRU 180	12.00	7	17.00	16.00	1.50	1.75	1.50	73.00	6.00	7.50	
LEES	CL	A OR B	15 THRU 19	6 THRU 15	12.50		5	17.50	16.50	1.25	1.75	1.50	73.00	6.00	7.50	LEES	B	A OR B	19 MAX.	19 MAX.	90 THRU 180	12.50	5	17.50	16.50	1.50	2.00	1.75	88.00	6.00	8.00	
LEES	CL	A OR B	20 THRU 24	6 THRU 15	13.00		5	18.00	17.00	1.50	1.75	1.50	73.00	6.00	7.50	LEES	B	A OR B	24 MAX.	24 MAX.	90 THRU 180	13.00	5	18.00	17.00	1.50	2.00	1.75	88.00	6.00	8.00	
LEES	CL	B	29	10	13.00		3	18.50	17.50	1.50	2.00	1.75	88.00	6.00	8.00	LEES	B	A OR B	29 MAX.	29 MAX.	90 THRU 180	14.00	0.250	19.00	19.00	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	CL	A OR B	30 THRU 32	6 THRU 15	13.00		3	18.50	17.50	1.50	2.00	1.75	88.00	6.00	8.00	LEES	B	A OR B	32 MAX.	32 MAX.	90 THRU 180	14.00	0.250	19.00	19.00	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	CL	A OR B	33 THRU 34	6 THRU 15	13.00		3	18.50	17.50	1.50	2.00	1.75	88.00	6.00	8.00	LEES	B	A OR B	34 MAX.	34 MAX.	90 THRU 180	14.00	0.250	19.00	19.00	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	CL	A OR B	35 THRU 36	6 THRU 15	14.00		0.250	19.00	19.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	B	A OR B	36 MAX.	36 MAX.	90 THRU 180	14.50	0.250	19.50	19.50	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	CL	A OR B	37 THRU 39	6 THRU 15	14.00		0.250	19.00	19.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	B	A OR B	39 MAX.	39 MAX.	90 THRU 180	15.00	0.250	20.50	20.50	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	CL	A OR B	40 THRU 41	6 THRU 15	14.50		0.250	20.00	20.00	1.50	2.00	1.75	88.00	6.00	8.00	LEES	B	A OR B	41 MAX.	41 MAX.	90 THRU 180	16.00	0.250	22.00	22.00	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	CL	B	42 THRU 45	6 THRU 15	15.00		0.250	20.50	20.50	1.75	2.25	2.00	115.00	6.00	8.50	LEES	B	A OR B	45 MAX.	45 MAX.	90 THRU 180	16.00	0.250	22.00	22.00	1.75	2.25	2.00	115.00	6.00	8.50	
LEES	CL	B	48 THRU 50	10 THRU 10	16.00	0.250	22.00	22.00	1.75	2.25	2.00	115.00	6.00	8.50	LEES	B	A OR B	50 MAX.	50 MAX.	90 THRU 180	17.00	0.250	23.00	23.00	1.75	2.25	2.00	115.00	6.00	8.50		
LEES	CL	A OR B	51 THRU 54	6 THRU 15	17.00	0.250	23.00	23.00	1.75	2.25	2.00	115.00	6.00	8.50	LEES	B	A OR B	54 MAX.	54 MAX.	90 THRU 180	18.00	0.250	24.00	24.00	2.00	2.50	2.25	114.00	6.00	9.00		

TABLE 5: MATERIAL DATA				TABLE 6: SIGNAL ARM					TABLE 7: ELEVATIONS				TABLE 8: LUMINAIRE ARM DATA				
COMPONENT		ASTM DESIGNATION		MIN. YIELD (KSI)	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE	ARM RISE "T" (DEG)	BASE TYPE	MAST ARM MOUNTING HEIGHT	POLE LENGTH WITH OUT LUMINAIRE ARM	POLE LENGTH WITH LUMINAIRE ARM	ARM SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK
SHAFT - 7, 5 & 3GA.		A595 GR. A		55	8 - 14	6.00	4.88 - 4.04	7	0.50 - 1.00	A	15'-6"	16'-6"	35'-0"	6	2.38	2.38	0.154"
SHAFT - 0.25" WALL		A572 GR.55		55	15 - 19	7.00	4.90 - 4.34	7	1.00 - 2.00	B	17'-6"	18'-6"	37'-0"	8	2.38	2.38	0.154"
BASE PLATE		A572 GR.50		50	20 - 24	8.00	5.20 - 4.64	7	1.00 - 2.00					10	2.38	2.38	0.154"
SIGNAL ARM ATTACHMENT PLATES		A572 GR.50		50	25 - 29	10.00	6.50 - 5.94	7	1.50 - 2.00					12	2.38	2.38	0.154"
SIGNAL ARM ATTACHMENT BOLTS		A325			30 - 32	10.00	5.80 - 5.52	7	2.00 - 2.00					15	2.38	2.38	0.154"
LUMINAIRE ARM TUBE(2"X0.38")		A513 OR EQUIVALENT			33 - 34	11.00	6.38 - 6.24	7	2.00 - 2.00								
LUMINAIRE STRUTS-(2"x0.38")		A36		36	35 - 36	11.00	6.10 - 5.96	7	2.00 - 2.00								
LUMINAIRE CONNECTION BOLTS		A307		36	37 - 39	12.00	6.82 - 6.54	7	2.00 - 2.50								
LUMINAIRE AND SIGN CLAMP		A36		36	40 - 41	12.00	6.40 - 6.26	7	2.50 - 2.50								
ANCHOR BOLTS		F1554 GR.55		55	42 - 45	12.50	6.62 - 6.20	5	2.50 - 2.50								
ANCHOR BOLT HEAVY HEX NUTS		A194 GR.2H			46 - 50	12.50	6.06 - 5.50	3	2.50 - 3.50								
ANCHOR BOLT FLAT WASHERS		F436			51 - 54	13.00	6.22 - 5.80	3 & 7	3.00 - 3.50								
GALVANIZING STRUCTURE		A123															
GALVANIZING HARDWARE		A153															
STAINLESS STEEL HARDWARE		A593 ALLOY GR.1															

LEES - BL - A - 45 - 35 - 110 - 15

LUMINAIRE ARM SPAN-IN FEET (6, 8, 10, 12 & 15)
SECOND MAST ARM ORIENTATION (90 - 180)
SECOND MAST ARM SPAN-IN FEET (8 - 54)
SIGNAL ARM SPAN-IN FEET (8 - 54)
ANCHOR BASE TYPE (A OR B)
POLE TYPE (C, CL, B OR BL)
LEE'S SUMMIT POLE SERIES

DESIGNATION EXAMPLE

QTY-1 LEES-CL-B-29-10-GV-HH-LAB
QTY-1 LEES-C-B-45-GV-HH-LAB
QTY-1 LEES-CL-B-48-10-GV-HH-LAB
QTY-1 LEES-C-B-42-GV-HH-LAB
QTY-2 LEES-CL-B-50-10-GV-HH-LAB

TITLE CITY OF LEES SUMMIT, MO										TRAFFIC SIGNAL STRUCTURES										VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.										valmont Valley, NE 68064 (402) 359-2201										PAGE NUMBER: 4 OF 4 DRAWING NUMBER DB00947 REV A									
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